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HARRINGTON & SMITH
4 RESEARCH DRIVE, Suite 202
SHELTON, CT 06484-6212

EXAMINER	
SKOWRONEK, KARLHEINZ R	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/797,359	BOYER ET AL.	
	Examiner	Art Unit	
	KARLHEINZ R. SKOWRONEK	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7-20,25-36 and 42-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-20,25-36 and 42-45* is/are rejected.

7)☒ Claim(s) *1* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 January 2010 has been entered.

Claim Status

Claims 1-3, 7-20, 25-36, and 42-45 are pending.

Claims 4-6, 21-24, and 37-41 are cancelled.

Claims 1-3, 7-20, 25-36, and 42-45 have been examined.

Claims 1-3, 7-20, 25-36, and 42-45 are rejected.

Claim 1 is objected to.

Priority

This application was filed on 09 March 2004 and makes no claim of priority to any prior filed application.

Interview Summary

Applicant's summary of the interview of 18 December 2009 accurately reflects the discussion.

Claim Objections

Claim 1 is objected to because of the following informalities:

Claim 1 recites the "substructures of the text documents" in line 8, which should amended to "substructures in the text document".

Claim 1 recites "information of each" in line 11 which would be more appropriately recited as "information within each".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Response to Arguments

The rejection of claims 19-20, 25-36, and 42-46as indefinite funder 35 USC 112, Second Paragraph is withdrawn in view of the amendments to the claims.

The rejection of claims 9-10, 27-28, and 42 as introducing new matter under 35 USC 112, First Paragraph is withdrawn in view of applicants argument.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 7-20, 25-36, and 42-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 19, and 43 are unclear with respect to the step of "indexing representations". The metes and bounds of the claim are rendered indefinite by the lack

of clarity. The claim recites a method to process at least one text document by partitioning the text document and extracting keywords and chemical names. The "testing" step confusingly recites testing each of the recognized chemical name fragments in a first text document and the determining step recites a next text document. The claim, in its broadest sense, requires only one text document. First it is unclear when only one text document is processes where the next document comes from. Second, it is unclear at what point the process of indexing ends. Claims 2-3, 7-18, 20, 25-36, 42, and 44-45 are also rejected because they depend from claims 1, 19, and 43, and thus contain the above issues due to said dependence.

Claims 1, 19, and 43 are unclear with respect to the step of "partitioning". The metes and bounds of the claim are rendered indefinite by the lack of clarity. It is not clear from the claim what the text document is being partitioned into. If applicant intended the text document to be partition into a plurality of subtext documents, then the claim should be amended. Such an amendment could clarify the issue above regarding the step of "indexing representations", by referring to the first text document and next text document as subtext documents. Claims 2-3, 7-18, 20, 25-36, 42, and 44-45 are also rejected because they depend from claims 1, 19, and 43, and thus contain the above issues due to said dependence.

Claims 1, 19, and 43 are unclear with respect to the step of "assigning semantic meaning". The metes and bounds of the claim are rendered indefinite by the lack in clarity. The relation between assigning semantic meaning and the recognition of chemical name fragments is not clear. If applicant intends to recognize chemical name

fragments from words for which semantic meaning has been assigned, then the claim should be amended to reflect such an action. Claims 2-3, 7-18, 20, 25-36, 42, and 44-45 are also rejected because they depend from claims 1, 19, and 43, and thus contain the above issues due to said dependence.

Claims 1, 19, and 43 are unclear with respect to the step of "selecting graphical representations". The metes and bounds of the claim are rendered indefinite by the lack of clarity. The claim recites selecting graphical representations however no graphical representations have been rendered in the process. Claims 2-3, 7-18, 20, 25-36, 42, and 44-45 are also rejected because they depend from claims 1, 19, and 43, and thus contain the above issues due to said dependence.

Claims 1, 19, and 43 recite the limitation "the fragment token" in line 19-20. There is insufficient antecedent basis for this limitation in the claim. Claims 2-3, 7-18, 20, 25-36, 42, and 44-45 are also rejected because they depend from claims 1, 19, and 43, and thus contain the above issues due to said dependence.

Claims 1, 19, and 43 are unclear with respect to the step of "receiving a search result". The metes and bounds of the claim are rendered indefinite by the lack of clarity. It is unclear from the claim how the search result is an intersection of the text and substructure indices. If applicant intended the search result to occur within an intersection of the chemical substructure index and the text index, then the claim should be so amended. Alternatively if applicant intends for the search to result in an intersection of the chemical substructure index and the text index, then the claim should be so amended. Claims 2-3, 7-18, 20, 25-36, 42, and 44-45 are also rejected because

they depend from claims 1, 19, and 43, and thus contain the above issues due to said dependence.

Claims 1,2, 19, 20, and 43 are unclear with respect to the identification of at least one document. The metes and bounds of the claim are rendered indefinite by the lack of clarity. The claim recites a method of processing applied to text documents. It is unclear from the claim what type of documents the identified documents are. If applicant intended the identified documents to be text documents, then amendment would be appropriate. Claims 3, 7-18, 25-36, 42, and 44-45 are also rejected because they depend from claims 1, 19, and 43, and thus contain the above issues due to said dependence.

Claim Rejections - 35 USC § 101

Response to Arguments

The rejection of claims 19-20, 25-36, and 42-46 as non statutory under 35 USC 101 is withdrawn in view of the amendments to the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The following rejection is amended.

Claim 1-3, 7, 11-17, 19-20, 25, and 29-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (Journal of Chemical Information and Computer Sciences, Vol. 17, No. 1, p. 9-15, 1977), in view of Brecher, in view of Singh et al. (J. Chem. Inf. Comput. Sci. 2003, 43, 743-752), in view of Moore et al., in view of Hull et al. in view of Cardinali (Industrial Management + Data Systems. Wembley: 1994. Vol. 94, Iss. 4; pg. 3, 6 pgs), in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al.

Claim 1 is directed to a method of processing a text document in which:

a) the text document is partitioned and assigned semantic meaning by applying rules, regular expression, and a dictionaries comprising a dictionary of prefixes and a dictionary of suffixes of chemical name fragments;

b) substructures are recognized in the chemical name fragments;

c) keywords associated with chemical name fragments and substructures are extracted and indexed;

d) chemical name fragments and substructures that do not contain a number are added to the text index;

e) structural connectivity information is determined for the chemical name fragments and substructures that do not contain a number;

f) representations of the chemical name fragments and substructures associated with connectivity information in connectivity tables are indexed with a step of testing if a chemical fragment name occurs in a structure dictionary in SMILES format or MOL file format;

g) the association between the text index and the chemical substructure index is stored;

h) a graphical user interface is provided to search the text and chemical substructure index, the search comprising entering a first search term, then selecting one or more graphical substructure representations from a graphical list of substructures; and

i) a search result representing the intersection of the substructure index and the text index that identifies at least one document containing chemical compounds having the selected substructure and chemical fragment name connectivity is received.

Claims 2 and 20 are directed to searching with a key word that is not a chemical name.

Claim 3 is directed to performing the process by execution of software.

Claims 7 and 25 are directed to looking up structures in a structure dictionary.

Claims 11 and 29 are directed to a list of stop words.

Claims 12 and 30 are directed to common word endings.

Claims 13 and 31 are directed to the application of regular expression to remove characters from a name fragment.

Claims 14 and 32 are directed to the regular expression that comprises a plurality of patterns.

Claims 15 and 33 are direct to the punctuation of the patterns.

Claims 16 and 34 are directed to upper case C, O, R, N, and H.

Claims 17 and 35 are directed to lower case xy, ene, ine, yl, ane, and oic.

Allen discloses an algorithm for partitioning compound chemical names by rules and dictionaries. Allen et al. shows the application of dictionaries or lists comprising a chemical prefix dictionary and a chemical suffix dictionary to recognize chemical names (p. 9, col. 1). Allen shows the extraction of keywords associated with the recognized chemical name fragments and indexing in a text index (p. 13, col. 1). Allen et al. shows

that not all chemical names have numbers. Allen et al. shows that chemical name fragments that do not have numbers are added to the index. Allen et al. shows that dictionaries of prefixes(start) and a suffixes(stop) are applied until the end of a name is reached (p. 13, col. 1). Regarding clam 16, Allen et al. show that strings of element symbols are detected, reading on C, O, N, and H (p. 11, col. 1).

Allen et al. do not show that a text document is partitioned, substructures are recognized and structural connectivity is determined.

Brecher et al. shows that shows the application of regular expression to partition to recognize chemical name fragments (col. 5, line 41- col. 6, line 25). Brecher et al. shows a file based input reading on a text document (col. 2, line 49). Brecher et al. shows that descriptive text is recognized and removed (col. 8, line 59). Brecher shows that the internal processing operates by comparing portions of the chemical name to text strings that have been predetermined to have respective characteristics and properties in accordance with rules of chemical nomenclature, and with exceptions to such rules, and assembling a structure from pieces corresponding to selected text strings (col. 2, line 59-65). Brecher shows detection of upper case O, R, and N (col. 5, line 2 and 14). Brecher et al. shows that identifying information is extracted from the substructures and fragments to produce a fully parsed chemical name that is correlated to a chemical structure (figure 6). Referring to figure 6, the nomToken data structure is an index that correlates fragment text or key word with structural connectivity information in the form of a connection table. Brecher shows the determination connectivity information for each key word via a lexicon or dictionary of nomTokens (col.

6, line 41-42). Brecher shows the concatenation of nomtokens to create larger fragments (col. 8, line 29-34). Regarding claim 11, Brecher shows that the lexicon has at least a sub lexicon to identify stop-words (col. 8, line 49-50). Brecher shows the method allows chemical names to be accurately converted to chemical structures in real time or in nearly real time to provide users with a powerful, practical tool (col. 2, line 11-14).

Singh et al. shows the combination of text search and structure search (abstract). Singh et al. shows that there are meaningful relationships between compounds that are not just encoded in their structures but can be found in the textual descriptions surrounding them in the medical literature (p. 743, col. 2). Signh et al. shows that text documents are parsed and chemical names extracted (745, col. 1). Singh et al. shows that chemical names are associated with structural connectivity (p. 745, col. 2). Regarding claim 2, Singh et al. shows that keywords that are not chemical names may also be used to search (p. 746, col. 1). Singh et al. shows searching text and structure takes advantage of the contextual knowledge developed by scientists within the pharmaceutical, biological, and medicinal chemistry community (p. 751, col. 2).

Moore et al. shows a method of storing extracted identifying information in a searchable index (col. 4, line 28-35). Regarding claims 2, 20 and 38, Moore et al. shows that the index can be searched by a combination of substructure names, reading on text terms and keywords (col. 7, line 47-48) and connectivities, reading on graphical representations (col. 10, line 43-46). Moore shows that multiple databases can be interrelated to form a relational database forming an integrated chemical information

system that can be searched using combination searches (col. 11, line 1-8). Moore et al. shows the method has the advantage of simplified search queries (col. 12, line 42-46). Moore et al. shows the method has the further advantages of reducing database development and maintenance costs, simplify interfacing with other information systems (col. 2, line 10-23).

Hull et al shows a text influence molecular indexing method and system. Hull et al. shows the selection of a substructure and recieving a search result that is an intersection of a text index and a substructure index (col. 10, line 55-57). Hull et al shows the system returns a result that is the intersection of a text and substructure index (col. 11, line 23-30). Hull shows that the database allows the researcher to take advantage of past experiments described in the literature to save money in research and development costs (col. 12, line 15-20).

Cardinali et al. shows graphical user interfaces (GUI). Cardinali shows that GUIs have at least seven benefits: providing the ability to complete work faster; providing the ability of correctly completing tasks; increasing productivity; reducing user frustration; reducing fatigue; making software easier to learn; and easier to explore capabilities of the software.

Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., in view of Hull et al. and in view of Cardinali do not show a testing if a fragment name occurs in a structure dictionary in SMILES format or MOL file format.

Vander Stouw et al. shows a process of converting chemical names into structures. Vander Stouw et al. shows a step to identify the word root corresponding to

the main ring or chain via dictionary look-up, retrieve the corresponding connection table fragment, which reads on testing a dictionary for the occurrence of a fragment (p. 187, col. 1). Vander Stouw et al. shows the successful identification of names to connection table conversion by testing the occurrence of a name in a structure dictionary (p. 190, col. 1).

Vander Stouw et al. does not show the SMILES or MOL formats of connection tables.

Drefahl et al. teach a SMILES structure dictionary (abstract, sent. 3). Drefahl et al. shows representations comprising SMILES type representations (p.888). Drefahl et al shows that the database is tested to determine if a compound exists in the database and returns the SMILES notation if it does (p. 890, col. 1).

Murray-Rust et al. shows chemical representations can be MOL type representation and SMILES type representations (p. 626). Murray-Rust et al. shows MOL type representations have the advantage of being extremely terse (p. 626, col. 1).

Regarding claim 10 and 28, the combination of Allen et al. in view of Brecher make the limitation of dictionaries consisting of a dictionary of prefixes a dictionary of suffixes of chemical name fragments and a dictionary of stop words. Allen et al shows dictionaries of prefixes and suffixes. Brecher shows a dictionary of stop words.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Allen et al. for indexing chemical name fragments using chemical prefix and suffix dictionaries with the teachings of Brecher showing the association of chemical name fragments and chemical connectivity because Brecher

shows the method allows chemical names to be accurately converted to chemical structures in real time or in nearly real time to provide users with a powerful, practical tool. It would have been further obvious to on of ordinary skill in the art to further modify Allen et al. in view of Brecher showing methodologies for creating chemical text word and chemical connectivity index by combining a search of the text terms with a search of structural connectivity of Singh et al. because Singh et al. shows searching text and structure takes advantage of the contextual knowledge developed by scientists within the pharmaceutical, biological, and medicinal chemistry community. It would have been further obvious to one of ordinary skill in the art at the time of invention to further modify the method of partitioning text documents of Allen et al. in view of Brecher with the search of Moore et al. because Moore et al. shows the method has the further advantages of reducing database development and maintenance costs, simplify interfacing with other information systems. It would have been further obvious to modify the method of searching text and structure indices of Allen et al. in view of Brecher and in view of Singh et al. and Moore et al. with a GUI of Cardinali because Cardinali shows GUIs provide the advantages of providing the ability to complete work faster; providing the ability of correctly completing tasks; increasing productivity; reducing user frustration; reducing fatigue; making software easier to learn; and easier to explore capabilities of the software. It would have been further obvious to one of ordinary skill in the art to modify the teachings of Allen et al. in view of Brecher in view of Singh et al. and in view of Cardinali because all the claimed elements were known, in the prior art, and one skilled in the art could have combined the elements as claimed by known

methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali with the structure dictionary of Vander Stouw et al. because the technique of querying a structure dictionary with identified chemical name fragments was recognized as part of the ordinary capabilities of one skilled in the art. One of ordinary skill in the art would have been capable of applying this known technique to the method of partitioning text documents that was ready for improvement and the results would have been predictable to one of ordinary skill in the art. It would have been further obvious to one of ordinary skill in the art at the time of invention to combine the teachings Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali and Vander Stouw et al. with the SMILES and MOL notations of Drefahl et al. and Murray Rust et al. because Drefahl et al. and Murray-Rust et al. show that SMILES and MOL notations provides a compact and computationally amenable way to encode chemical structure information. One would have had a reasonable expectation of success because Drefahl et al. describe the successful application of a SMILES dictionary structure-based retrieval and searching.

Response to Arguments

Applicant's arguments filed 26 January 2010 have been fully considered but they are not persuasive. Applicant argues Vander Stouw et al, Drehfahl et al and Murray-

Rust fail to show the limitations of testing each chemical name fragment of a test document to determine if the fragment exists in a SMILES dictionary and if it does then the SMILES expression is added to the chemical substructure index then testing each chemical name fragment of a test document to determine if the fragment exists in a MOL file dictionary and if it does then the MOL file expression is added to the chemical substructure index and reiterating the testing steps until all of the chemical name fragments of the text document have been tested. The argument is not persuasive. Drehfahl et al shows, and as indicated applicant, the entry of a query compound through an interface to determine if the compound is in the SMILES database and if it is returning the SMILES notation (p. 890, col. 1). Drehafal et al shows therefore the testing of a SMILES dictionary or database to determine if a fragment or compound exists and returning the SMILES notation if it does. With respect that the references do not show a step of indexing, the argument is not persuasive. Moore et al. shows a method of storing extracted identifying information in a searchable index (col. 4, line 28-35). In response to applicant's argument that Drefahl et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, The claimed limitation are directed to a step of determining the existence of representation of a chemical compound in a database from a query and returning the representation of the compound. Similarly, Drehfahl et al. is directed to database operations in which

chemical compounds are queried for the existence in database of SMILES representations and a result returned if an entry exists. With respect to applicant's argument that a graphical user interface is not provided by the cited references, the argument is not persuasive. Moore et al shows a graphical user interface (fig 10). With respect to applicant's argument that the element of receiving a search result that is the intersection of a text index and a substructure index is not taught by the cited art, the argument is not persuasive. Hull et al shows the selection of a substructure and receiving a search result that is an intersection of a text index and a substructure index (col. 10, line 55-57). With respect to applicants argument regarding the rejection claim 2, the argument is not persuasive. Singh et al shows TIMI enables search and retrieval of documents with textual, chemical, and/or text- and chemistry based queries (abstract).

With respect to applicants arguments regarding the rejection of claims 9-10 and 27-28, the arguments are found persuasive. The rejection of claims 9-10 and 27-28 under USC 103 is withdrawn.

The following rejection is amended.

Claims 18 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. as applied to claims 1-3, 7, 11-17, 19-20, 25, and 29-35 above, and further in view of Kemp et al.

Claims 18 and 36 are drawn to tokenizing a document to produce a series of tokens.

Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. as applied to claims 1-3, 7, 11-17, 19-20, 25, and 29-35 above shows a method of partitioning a text document.

Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. do not explicitly teach the tokenization of documents.

Kemp et al. teach the tokenization of documents into a sequence of tokens (p. 547, 2nd para, sent. 2). Kemp et al. teach regarding text processing procedures that even simple methods can achieve very high degree of success (abstract).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. as applied to claims 1-3, 7, 11-17, 19-20, 25, and 29-35 above with the tokenization of Kemp et al. because Kemp et al. shows tokenization is useful to prepare data for automated analysis. One would have had a reasonable expectation of success because Kemp et al. teach regarding text processing procedures that even simple methods can achieve very high degree of success.

Response to Arguments

Applicant's arguments filed 26 January 2010 have been fully considered but they are not persuasive. Applicant argues Kemp et al fails to remedy the deficiencies of Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. The argument is not persuasive for the reasons provided above.

The following rejection is necessitated by amendment of the claims.

Claims 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. as applied to claims 1-3, 7, 11-17, 19-20, 25, and 29-35 above, and further in view of Shivaratri et al.

The claim is directed to a system of computers coupled through a data communications network comprising a unit to parse document text; a unit to recognize substructures in chemical name fragments; a unit to identify structural connectivity in fragments and substructures and store the structural connectivity information in a searchable index. Claim 44 is directed to searching with a key word that is not a chemical name. Claim 45 is directed to looking up structures in a structure dictionary. Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. as applied to claims 1-3, 7, 11-17, 19-20, 25, and 29-35 above shows a method of partitioning a text document. Regarding claim 44, Moore et al. and Singh et

al. show that chemical terms keywords and structures can be searched as applied to claims 2 and 20. Regarding claim 45, Brecher shows looking up structures in a structure dictionary as applied to claims 7 and 25 above.

Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. do not show a distributed computing environment.

Shivaratri et al. teach a system of computers coupled through a data communication network to generate a distributed computing system (p. 33, para 4, sent. l).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. as applied to claims 1-3, 7, 9-17, 19-20, 25, 27, and 29-35 above with the teachings of Shivaratri et al. because distributing computational loads improves performance of computational tasks. One would have been motivated by Shivaratri et al. who describe the advantages of distributed computing systems as offering high performance, availability, and extensibility at low cost (p. 33, para. 1, sent.2). One would have had a reasonable expectation of success because Shivaratri et al. describe the successful implementation of distributed computing systems.

Response to Arguments

Applicant's arguments filed 26 January 2010 have been fully considered but they are not persuasive. Applicant argues Shivaratri et al. fails to remedy the deficiencies of Allen et al., in view of Brecher, in view of Singh et al., in view of Moore et al., and in view of Cardinali, in view of Vander Stouw et al., in view of Drefahl et al., and in view of Murray-Rust et al. The argument is not persuasive for the reasons provided above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARLHEINZ R. SKOWRONEK whose telephone number is (571)272-9047. The examiner can normally be reached on 8:00am-5:00pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/KARLHEINZ R SKOWRONEK/
Primary Examiner, Art Unit 1631

26 May 2010